

| REPORT DOCUMENTATION PAGE   |                       | READ INSTRUCTIONS<br>BEFORE COMPLETING FORM                 |
|---|-----------------------|---|
| 1. REPORT NUMBER  | 2. GOVT ACCESSION NO. | 3. RECIPIENT'S CATALOG NUMBER                               |
| 4. TITLE (and Subtitle)<br><i>Opiate receptor subtypes</i>  |                       | 5. TYPE OF REPORT & PERIOD COVERED<br><i>(10)</i>           |
| AUTHOR(s)<br><i>John W. Moradog</i>   |                       | 6. PERFORMING ORG. REPORT NUMBER                            |
| PERFORMING ORGANIZATION NAME AND ADDRESS<br>Department of Medical Neurosciences, Div. of NP<br>Walter Reed Army Institute of Research<br>Washington, D.C. 20307-5100                  |                       | 10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS |
| CONTROLLING OFFICE NAME AND ADDRESS<br>USAMRDC<br>Ft. Detrick<br>Frederick, MD 21701-5000   |                       | 12. REPORT DATE<br><i>March 1985</i>                        |
| MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)<br>Walter Reed Army Institute of Research<br>Washington, D.C. 20307-5100                                      |                       | 13. NUMBER OF PAGES<br><i>1</i>                             |
|   |                       | 15. SECURITY CLASS. (of this report)<br>unclassified        |
|   |                       | 16. DECLASSIFICATION/DOWNGRADING SCHEDULE                   |
| 11. DISTRIBUTION STATEMENT (of this Report)<br>approved for public release; distribution unlimited  |                       |   |
| 17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)<br><i>A</i>  |                       |   |
| 18. SUPPLEMENTARY NOTES   |                       |   |
| 19. KEY WORDS (Continue on reverse side if necessary and identify by block number)<br><i>AA</i><br>"Original contains color plates. All DMC reproductions must be in black and white" |                       |   |
| 20. ABSTRACT (Continue on reverse side if necessary and identify by block number)<br><i>AA</i>  |                       |   |

**DTIC**  
**S** ELECT  
FEB 26 1986  
**A**

Information For:

|                 |                                     |
|-----------------|-------------------------------------|
| 1. NAME         | <input checked="" type="checkbox"/> |
| 2. ADDRESS      | <input type="checkbox"/>            |
| 3. PHONE        | <input type="checkbox"/>            |
| 4. FAX          | <input type="checkbox"/>            |
| 5. TELETYPE     | <input type="checkbox"/>            |
| 6. MAILING LIST | <input type="checkbox"/>            |
| 7. OTHER        | <input type="checkbox"/>            |

*A1*

AD-A165 206

FILE COPY

# OPIATE RECEPTOR SUBTYPES



PERFECT LABORATORY OF THE RESEARCH IN THE RESEARCH  
PERFECT LABORATORY OF THE RESEARCH IN THE RESEARCH  
PERFECT LABORATORY OF THE RESEARCH IN THE RESEARCH

| Receptor subtype | Endogenous agonists        | Endogenous agonist structure   | Endogenous agonist precursor   | Prototype agonist                 | Selective agonists  | Selective antagonists                              | In-vitro assay system                   |
|------------------|----------------------------|--|--------------------------------|-----------------------------------|---|--|---|
| $\mu$            | $\beta$ -endorphin         | Tyr-Gly-Gly-Phe-Met-Thr-Ser-Glu-Lys-Ser-Glu-Thr-Pro-Leu-Val-Thr-Leu-Phe-Lys-Asn<br>Ala-Ile-Ile-Lys-Asn-Ala-His-Lys-Lys-Gly-Glu | pro-opiomelanocortin (POMC)    | morphine                          | morphine<br>Tyr-D-Ala-Gly-Phe-Gly-DAG (DAGO)  | naloxazine<br>$\beta$ -funaltrexamine<br>naloxone* | guinea-pig ileum                        |
| $\delta$         | [Met]enkephalin            | Tyr-Gly-Gly-Phe-Met  | proenkephalin A                |                                   |   |  |   |
|                  | [Leu]enkephalin            | Tyr-Gly-Gly-Phe-Leu  | proenkephalin A                | [Leu]enkephalin                   | D-Ala <sup>2</sup> -D-Leu <sup>5</sup> -enkephalin (DADL)<br>D-Pen <sup>2</sup> -D-Phe <sup>5</sup> -enkephalin | naloxone<br>ICI 154,129<br>ICI 174,864             | mouse vas deferens<br>guinea-pig ileum  |
| $\kappa$         | dynorphin <sub>1-17}</sub> | Tyr-Gly-Gly-Phe-Leu-Arg-Arg-Ile-Arg-Pro-Lys-Leu-Lys-Trp-Asp-Asn-Gln  | prodynorphin (proenkephalin B) | ketocyclazocine**                 | U 50,488<br>dynorphin <sub>1-17}</sub>  | naloxone<br>WIN-44,441-3<br>MR-2266                | rabbit vas deferens<br>guinea-pig ileum |
| $\epsilon$       | $\beta$ -endorphin         | as above   | pro-opiomelanocortin (POMC)    | $\beta$ -endorphin                | $\beta$ -endorphin  | naloxone   | rat vas deferens<br>guinea-pig ileum    |
| $\sigma^1$       |                            |  |                                | N-allylnormetazocine (SKF 10,047) | phencyclidine   |  | guinea-pig ileum                        |

1. Sigma receptors may not be exclusively opioid. \* decreasing order of potency of naloxone approximately 1:500 for  $\mu$ , 1:100 for  $\delta$ , 1:10 for  $\kappa$ . \*\* Although ketocyclazocine is the prototype benzomorphan agonist, it has been proposed that benzomorphan agonists may bind differently than other putative  $\epsilon$  agonists.  
ICI 154,129 - N,N-bis(2-methyl-5-phenyl-1-pyrazolyl)-1-pyrazol-4-amine; WIN 44,441-3 - 2a, 2b, 2c, 2d, 2e, 2f, 2g, 2h, 2i, 2j, 2k, 2l, 2m, 2n, 2o, 2p, 2q, 2r, 2s, 2t, 2u, 2v, 2w, 2x, 2y, 2z, 3a, 3b, 3c, 3d, 3e, 3f, 3g, 3h, 3i, 3j, 3k, 3l, 3m, 3n, 3o, 3p, 3q, 3r, 3s, 3t, 3u, 3v, 3w, 3x, 3y, 3z, 4a, 4b, 4c, 4d, 4e, 4f, 4g, 4h, 4i, 4j, 4k, 4l, 4m, 4n, 4o, 4p, 4q, 4r, 4s, 4t, 4u, 4v, 4w, 4x, 4y, 4z, 5a, 5b, 5c, 5d, 5e, 5f, 5g, 5h, 5i, 5j, 5k, 5l, 5m, 5n, 5o, 5p, 5q, 5r, 5s, 5t, 5u, 5v, 5w, 5x, 5y, 5z, 6a, 6b, 6c, 6d, 6e, 6f, 6g, 6h, 6i, 6j, 6k, 6l, 6m, 6n, 6o, 6p, 6q, 6r, 6s, 6t, 6u, 6v, 6w, 6x, 6y, 6z, 7a, 7b, 7c, 7d, 7e, 7f, 7g, 7h, 7i, 7j, 7k, 7l, 7m, 7n, 7o, 7p, 7q, 7r, 7s, 7t, 7u, 7v, 7w, 7x, 7y, 7z, 8a, 8b, 8c, 8d, 8e, 8f, 8g, 8h, 8i, 8j, 8k, 8l, 8m, 8n, 8o, 8p, 8q, 8r, 8s, 8t, 8u, 8v, 8w, 8x, 8y, 8z, 9a, 9b, 9c, 9d, 9e, 9f, 9g, 9h, 9i, 9j, 9k, 9l, 9m, 9n, 9o, 9p, 9q, 9r, 9s, 9t, 9u, 9v, 9w, 9x, 9y, 9z, 10a, 10b, 10c, 10d, 10e, 10f, 10g, 10h, 10i, 10j, 10k, 10l, 10m, 10n, 10o, 10p, 10q, 10r, 10s, 10t, 10u, 10v, 10w, 10x, 10y, 10z, 11a, 11b, 11c, 11d, 11e, 11f, 11g, 11h, 11i, 11j, 11k, 11l, 11m, 11n, 11o, 11p, 11q, 11r, 11s, 11t, 11u, 11v, 11w, 11x, 11y, 11z, 12a, 12b, 12c, 12d, 12e, 12f, 12g, 12h, 12i, 12j, 12k, 12l, 12m, 12n, 12o, 12p, 12q, 12r, 12s, 12t, 12u, 12v, 12w, 12x, 12y, 12z, 13a, 13b, 13c, 13d, 13e, 13f, 13g, 13h, 13i, 13j, 13k, 13l, 13m, 13n, 13o, 13p, 13q, 13r, 13s, 13t, 13u, 13v, 13w, 13x, 13y, 13z, 14a, 14b, 14c, 14d, 14e, 14f, 14g, 14h, 14i, 14j, 14k, 14l, 14m, 14n, 14o, 14p, 14q, 14r, 14s, 14t, 14u, 14v, 14w, 14x, 14y, 14z, 15a, 15b, 15c, 15d, 15e, 15f, 15g, 15h, 15i, 15j, 15k, 15l, 15m, 15n, 15o, 15p, 15q, 15r, 15s, 15t, 15u, 15v, 15w, 15x, 15y, 15z, 16a, 16b, 16c, 16d, 16e, 16f, 16g, 16h, 16i, 16j, 16k, 16l, 16m, 16n, 16o, 16p, 16q, 16r, 16s, 16t, 16u, 16v, 16w, 16x, 16y, 16z, 17a, 17b, 17c, 17d, 17e, 17f, 17g, 17h, 17i, 17j, 17k, 17l, 17m, 17n, 17o, 17p, 17q, 17r, 17s, 17t, 17u, 17v, 17w, 17x, 17y, 17z, 18a, 18b, 18c, 18d, 18e, 18f, 18g, 18h, 18i, 18j, 18k, 18l, 18m, 18n, 18o, 18p, 18q, 18r, 18s, 18t, 18u, 18v, 18w, 18x, 18y, 18z, 19a, 19b, 19c, 19d, 19e, 19f, 19g, 19h, 19i, 19j, 19k, 19l, 19m, 19n, 19o, 19p, 19q, 19r, 19s, 19t, 19u, 19v, 19w, 19x, 19y, 19z, 20a, 20b, 20c, 20d, 20e, 20f, 20g, 20h, 20i, 20j, 20k, 20l, 20m, 20n, 20o, 20p, 20q, 20r, 20s, 20t, 20u, 20v, 20w, 20x, 20y, 20z, 21a, 21b, 21c, 21d, 21e, 21f, 21g, 21h, 21i, 21j, 21k, 21l, 21m, 21n, 21o, 21p, 21q, 21r, 21s, 21t, 21u, 21v, 21w, 21x, 21y, 21z, 22a, 22b, 22c, 22d, 22e, 22f, 22g, 22h, 22i, 22j, 22k, 22l, 22m, 22n, 22o, 22p, 22q, 22r, 22s, 22t, 22u, 22v, 22w, 22x, 22y, 22z, 23a, 23b, 23c, 23d, 23e, 23f, 23g, 23h, 23i, 23j, 23k, 23l, 23m, 23n, 23o, 23p, 23q, 23r, 23s, 23t, 23u, 23v, 23w, 23x, 23y, 23z, 24a, 24b, 24c, 24d, 24e, 24f, 24g, 24h, 24i, 24j, 24k, 24l, 24m, 24n, 24o, 24p, 24q, 24r, 24s, 24t, 24u, 24v, 24w, 24x, 24y, 24z, 25a, 25b, 25c, 25d, 25e, 25f, 25g, 25h, 25i, 25j, 25k, 25l, 25m, 25n, 25o, 25p, 25q, 25r, 25s, 25t, 25u, 25v, 25w, 25x, 25y, 25z, 26a, 26b, 26c, 26d, 26e, 26f, 26g, 26h, 26i, 26j, 26k, 26l, 26m, 26n, 26o, 26p, 26q, 26r, 26s, 26t, 26u, 26v, 26w, 26x, 26y, 26z, 27a, 27b, 27c, 27d, 27e, 27f, 27g, 27h, 27i, 27j, 27k, 27l, 27m, 27n, 27o, 27p, 27q, 27r, 27s, 27t, 27u, 27v, 27w, 27x, 27y, 27z, 28a, 28b, 28c, 28d, 28e, 28f, 28g, 28h, 28i, 28j, 28k, 28l, 28m, 28n, 28o, 28p, 28q, 28r, 28s, 28t, 28u, 28v, 28w, 28x, 28y, 28z, 29a, 29b, 29c, 29d, 29e, 29f, 29g, 29h, 29i, 29j, 29k, 29l, 29m, 29n, 29o, 29p, 29q, 29r, 29s, 29t, 29u, 29v, 29w, 29x, 29y, 29z, 30a, 30b, 30c, 30d, 30e, 30f, 30g, 30h, 30i, 30j, 30k, 30l, 30m, 30n, 30o, 30p, 30q, 30r, 30s, 30t, 30u, 30v, 30w, 30x, 30y, 30z, 31a, 31b, 31c, 31d, 31e, 31f, 31g, 31h, 31i, 31j, 31k, 31l, 31m, 31n, 31o, 31p, 31q, 31r, 31s, 31t, 31u, 31v, 31w, 31x, 31y, 31z, 32a, 32b, 32c, 32d, 32e, 32f, 32g, 32h, 32i, 32j, 32k, 32l, 32m, 32n, 32o, 32p, 32q, 32r, 32s, 32t, 32u, 32v, 32w, 32x, 32y, 32z, 33a, 33b, 33c, 33d, 33e, 33f, 33g, 33h, 33i, 33j, 33k, 33l, 33m, 33n, 33o, 33p, 33q, 33r, 33s, 33t, 33u, 33v, 33w, 33x, 33y, 33z, 34a, 34b, 34c, 34d, 34e, 34f, 34g, 34h, 34i, 34j, 34k, 34l, 34m, 34n, 34o, 34p, 34q, 34r, 34s, 34t, 34u, 34v, 34w, 34x, 34y, 34z, 35a, 35b, 35c, 35d, 35e, 35f, 35g, 35h, 35i, 35j, 35k, 35l, 35m, 35n, 35o, 35p, 35q, 35r, 35s, 35t, 35u, 35v, 35w, 35x, 35y, 35z, 36a, 36b, 36c, 36d, 36e, 36f, 36g, 36h, 36i, 36j, 36k, 36l, 36m, 36n, 36o, 36p, 36q, 36r, 36s, 36t, 36u, 36v, 36w, 36x, 36y, 36z, 37a, 37b, 37c, 37d, 37e, 37f, 37g, 37h, 37i, 37j, 37k, 37l, 37m, 37n, 37o, 37p, 37q, 37r, 37s, 37t, 37u, 37v, 37w, 37x, 37y, 37z, 38a, 38b, 38c, 38d, 38e, 38f, 38g, 38h, 38i, 38j, 38k, 38l, 38m, 38n, 38o, 38p, 38q, 38r, 38s, 38t, 38u, 38v, 38w, 38x, 38y, 38z, 39a, 39b, 39c, 39d, 39e, 39f, 39g, 39h, 39i, 39j, 39k, 39l, 39m, 39n, 39o, 39p, 39q, 39r, 39s, 39t, 39u, 39v, 39w, 39x, 39y, 39z, 40a, 40b, 40c, 40d, 40e, 40f, 40g, 40h, 40i, 40j, 40k, 40l, 40m, 40n, 40o, 40p, 40q, 40r, 40s, 40t, 40u, 40v, 40w, 40x, 40y, 40z, 41a, 41b, 41c, 41d, 41e, 41f, 41g, 41h, 41i, 41j, 41k, 41l, 41m, 41n, 41o, 41p, 41q, 41r, 41s, 41t, 41u, 41v, 41w, 41x, 41y, 41z, 42a, 42b, 42c, 42d, 42e, 42f, 42g, 42h, 42i, 42j, 42k, 42l, 42m, 42n, 42o, 42p, 42q, 42r, 42s, 42t, 42u, 42v, 42w, 42x, 42y, 42z, 43a, 43b, 43c, 43d, 43e, 43f, 43g, 43h, 43i, 43j, 43k, 43l, 43m, 43n, 43o, 43p, 43q, 43r, 43s, 43t, 43u, 43v, 43w, 43x, 43y, 43z, 44a, 44b, 44c, 44d, 44e, 44f, 44g, 44h, 44i, 44j, 44k, 44l, 44m, 44n, 44o, 44p, 44q, 44r, 44s, 44t, 44u, 44v, 44w, 44x, 44y, 44z, 45a, 45b, 45c, 45d, 45e, 45f, 45g, 45h, 45i, 45j, 45k, 45l, 45m, 45n, 45o, 45p, 45q, 45r, 45s, 45t, 45u, 45v, 45w, 45x, 45y, 45z, 46a, 46b, 46c, 46d, 46e, 46f, 46g, 46h, 46i, 46j, 46k, 46l, 46m, 46n, 46o, 46p, 46q, 46r, 46s, 46t, 46u, 46v, 46w, 46x, 46y, 46z, 47a, 47b, 47c, 47d, 47e, 47f, 47g, 47h, 47i, 47j, 47k, 47l, 47m, 47n, 47o, 47p, 47q, 47r, 47s, 47t, 47u, 47v, 47w, 47x, 47y, 47z, 48a, 48b, 48c, 48d, 48e, 48f, 48g, 48h, 48i, 48j, 48k, 48l, 48m, 48n, 48o, 48p, 48q, 48r, 48s, 48t, 48u, 48v, 48w, 48x, 48y, 48z, 49a, 49b, 49c, 49d, 49e, 49f, 49g, 49h, 49i, 49j, 49k, 49l, 49m, 49n, 49o, 49p, 49q, 49r, 49s, 49t, 49u, 49v, 49w, 49x, 49y, 49z, 50a, 50b, 50c, 50d, 50e, 50f, 50g, 50h, 50i, 50j, 50k, 50l, 50m, 50n, 50o, 50p, 50q, 50r, 50s, 50t, 50u, 50v, 50w, 50x, 50y, 50z, 51a, 51b, 51c, 51d, 51e, 51f, 51g, 51h, 51i, 51j, 51k, 51l, 51m, 51n, 51o, 51p, 51q, 51r, 51s, 51t, 51u, 51v, 51w, 51x, 51y, 51z, 52a, 52b, 52c, 52d, 52e, 52f, 52g, 52h, 52i, 52j, 52k, 52l, 52m, 52n, 52o, 52p, 52q, 52r, 52s, 52t, 52u, 52v, 52w, 52x, 52y, 52z, 53a, 53b, 53c, 53d, 53e, 53f, 53g, 53h, 53i, 53j, 53k, 53l, 53m, 53n, 53o, 53p, 53q, 53r, 53s, 53t, 53u, 53v, 53w, 53x, 53y, 53z, 54a, 54b, 54c, 54d, 54e, 54f, 54g, 54h, 54i, 54j, 54k, 54l, 54m, 54n, 54o, 54p, 54q, 54r, 54s, 54t, 54u, 54v, 54w, 54x, 54y, 54z, 55a, 55b, 55c, 55d, 55e, 55f, 55g, 55h, 55i, 55j, 55k, 55l, 55m, 55n, 55o, 55p, 55q, 55r, 55s, 55t, 55u, 55v, 55w, 55x, 55y, 55z, 56a, 56b, 56c, 56d, 56e, 56f, 56g, 56h, 56i, 56j, 56k, 56l, 56m, 56n, 56o, 56p, 56q, 56r, 56s, 56t, 56u, 56v, 56w, 56x, 56y, 56z, 57a, 57b, 57c, 57d, 57e, 57f, 57g, 57h, 57i, 57j, 57k, 57l, 57m, 57n, 57o, 57p, 57q, 57r, 57s, 57t, 57u, 57v, 57w, 57x, 57y, 57z, 58a, 58b, 58c, 58d, 58e, 58f, 58g, 58h, 58i, 58j, 58k, 58l, 58m, 58n, 58o, 58p, 58q, 58r, 58s, 58t, 58u, 58v, 58w, 58x, 58y, 58z, 59a, 59b, 59c, 59d, 59e, 59f, 59g, 59h, 59i, 59j, 59k, 59l, 59m, 59n, 59o, 59p, 59q, 59r, 59s, 59t, 59u, 59v, 59w, 59x, 59y, 59z, 60a, 60b, 60c, 60d, 60e, 60f, 60g, 60h, 60i, 60j, 60k, 60l, 60m, 60n, 60o, 60p, 60q, 60r, 60s, 60t, 60u, 60v, 60w, 60x, 60y, 60z, 61a, 61b, 61c, 61d, 61e, 61f, 61g, 61h, 61i, 61j, 61k, 61l, 61m, 61n, 61o, 61p, 61q, 61r, 61s, 61t, 61u, 61v, 61w, 61x, 61y, 61z, 62a, 62b, 62c, 62d, 62e, 62f, 62g, 62h, 62i, 62j, 62k, 62l, 62m, 62n, 62o, 62p, 62q, 62r, 62s, 62t, 62u, 62v, 62w, 62x, 62y, 62z, 63a, 63b, 63c, 63d, 63e, 63f, 63g, 63h, 63i, 63j, 63k, 63l, 63m, 63n, 63o, 63p, 63q, 63r, 63s, 63t, 63u, 63v, 63w, 63x, 63y, 63z, 64a, 64b, 64c, 64d, 64e, 64f, 64g, 64h, 64i, 64j, 64k, 64l, 64m, 64n, 64o, 64p, 64q, 64r, 64s, 64t, 64u, 64v, 64w, 64x, 64y, 64z, 65a, 65b, 65c, 65d, 65e, 65f, 65g, 65h, 65i, 65j, 65k, 65l, 65m, 65n, 65o, 65p, 65q, 65r, 65s, 65t, 65u, 65v, 65w, 65x, 65y, 65z, 66a, 66b, 66c, 66d, 66e, 66f, 66g, 66h, 66i, 66j, 66k, 66l, 66m, 66n, 66o, 66p, 66q, 66r, 66s, 66t, 66u, 66v, 66w, 66x, 66y, 66z, 67a, 67b, 67c, 67d, 67e, 67f, 67g, 67h, 67i, 67j, 67k, 67l, 67m, 67n, 67o, 67p, 67q, 67r, 67s, 67t, 67u, 67v, 67w, 67x, 67y, 67z, 68a, 68b, 68c, 68d, 68e, 68f, 68g, 68h, 68i, 68j, 68k, 68l, 68m, 68n, 68o, 68p, 68q, 68r, 68s, 68t, 68u, 68v, 68w, 68x, 68y, 68z, 69a, 69b, 69c, 69d, 69e, 69f, 69g, 69h, 69i, 69j, 69k, 69l, 69m, 69n, 69o, 69p, 69q, 69r, 69s, 69t, 69u, 69v, 69w, 69x, 69y, 69z, 70a, 70b, 70c, 70d, 70e, 70f, 70g, 70h, 70i, 70j, 70k, 70l, 70m, 70n, 70o, 70p, 70q, 70r, 70s, 70t, 70u, 70v, 70w, 70x, 70y, 70z, 71a, 71b, 71c, 71d, 71e, 71f, 71g, 71h, 71i, 71j, 71k, 71l, 71m, 71n, 71o, 71p, 71q, 71r, 71s, 71t, 71u, 71v, 71w, 71x, 71y, 71z, 72a, 72b, 72c, 72d, 72e, 72f, 72g, 72h, 72i, 72j, 72k, 72l, 72m, 72n, 72o, 72p, 72q, 72r, 72s, 72t, 72u, 72v, 72w, 72x, 72y, 72z, 73a, 73b, 73c, 73d, 73e, 73f, 73g, 73h, 73i, 73j, 73k, 73l, 73m, 73n, 73o, 73p, 73q, 73r, 73s, 73t, 73u, 73v, 73w, 73x, 73y, 73z, 74a, 74b, 74c, 74d, 74e, 74f, 74g, 74h, 74i, 74j, 74k, 74l, 74m, 74n, 74o, 74p, 74q, 74r, 74s, 74t, 74u, 74v, 74w, 74x, 74y, 74z, 75a, 75b, 75c, 75d, 75e, 75f, 75g, 75h, 75i, 75j, 75k, 75l, 75m, 75n, 75o, 75p, 75q, 75r, 75s, 75t, 75u, 75v, 75w, 75x, 75y, 75z, 76a, 76b, 76c, 76d, 76e, 76f, 76g, 76h, 76i, 76j, 76k, 76l, 76m, 76n, 76o, 76p, 76q, 76r, 76s, 76t, 76u, 76v, 76w, 76x, 76y, 76z, 77a, 77b, 77c, 77d, 77e, 77f, 77g, 77h, 77i, 77j, 77k, 77l, 77m, 77n, 77o, 77p, 77q, 77r, 77s, 77t, 77u, 77v, 77w, 77x, 77y, 77z, 78a, 78b, 78c, 78d, 78e, 78f, 78g, 78h, 78i, 78j, 78k, 78l, 78m, 78n, 78o, 78p, 78q, 78r, 78s, 78t, 78u, 78v, 78w, 78x, 78y, 78z, 79a, 79b, 79c, 79d, 79e, 79f, 79g, 79h, 79i, 79j, 79k, 79l, 79m, 79n, 79o, 79p, 79q, 79r, 79s, 79t, 79u, 79v, 79w, 79x, 79y, 79z, 80a, 80b, 80c, 80d, 80e, 80f, 80g, 80h, 80i, 80j, 80k, 80l, 80m, 80n, 80o, 80p, 80q, 80r, 80s, 80t, 80u, 80v, 80w, 80x, 80y, 80z, 81a, 81b, 81c, 81d, 81e, 81f, 81g, 81h, 81i, 81j, 81k, 81l, 81m, 81n, 81o, 81p, 81q, 81r, 81s, 81t, 81u, 81v, 81w, 81x, 81y, 81z, 82a, 82b, 82c, 82d, 82e, 82f, 82g, 82h, 82i, 82j, 82k, 82l, 82m, 82n, 82o, 82p, 82q, 82r, 82s, 82t, 82u, 82v, 82w, 82x, 82y, 82z, 83a, 83b, 83c, 83d, 83e, 83f, 83g, 83h, 83i, 83j, 83k, 83l, 83m, 83n, 83o, 83p, 83q, 83r, 83s, 83t, 83u, 83v, 83w, 83x, 83y, 83z, 84a, 84b, 84c, 84d, 84e, 84f, 84g, 84h, 84i, 84j, 84k, 84l, 84m, 84n, 84o, 84p, 84q, 84r, 84s, 84t, 84u, 84v, 84w, 84x, 84y, 84z, 85a, 85b, 85c, 85d, 85e, 85f, 85g, 85h, 85i, 85j, 85k, 85l, 85m, 85n, 85o, 85p, 85q, 85r, 85s, 85t, 85u, 85v, 85w, 85x, 85y, 85z, 86a, 86b, 86c, 86d, 86e, 86f, 86g, 86h, 86i, 86j, 86k, 86l, 86m, 86n, 86o, 86p, 86q, 86r, 86s, 86t, 86u, 86v, 86w, 86x, 86y, 86z, 87a, 87b, 87c, 87d, 87e, 87f, 87g, 87h, 87i, 87j, 87k, 87l, 87m, 87n, 87o, 87p, 87q, 87r, 87s, 87t, 87u, 87v, 87w, 87x, 87y, 87z, 88a, 88b, 88c, 88d, 88e, 88f, 88g, 88h, 88i, 88j, 88k, 88l, 88m, 88